



Legal and Technical Commission

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Evaluation of the annual reports submitted by contractors

Report and recommendations of the Legal and Technical Commission

I. Introduction

1. The Legal and Technical Commission evaluated and considered the annual reports of eight contractors submitted pursuant to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (“the Regulations”). The Commission’s deliberations on the reports took place in closed meetings. Three working groups, composed of the members present in the Commission on 2 and 3 July, carried out a preliminary study of the annual reports and prepared a draft evaluation for consideration by the full Commission. The Commission was also provided with a preliminary assessment by the Secretariat of the status of annual reports submitted by contractors (ISBA/13/LTC/CRP.2).

2. The annual reports of contractors were due by 31 March 2007. As of 30 June 2007, annual reports had been received from eight contractors: Deep Ocean Resources Development Co. Ltd. (DORD), Yuzhmorgeologiya, the Government of the Republic of Korea, China Ocean Mineral Resources Research and Development Association (COMRA), Interoceanmetal Joint Organization (IOM), the Government of India, Institut français de recherche pour l’exploitation de la mer (IFREMER) and, for the first time, Bundesanstalt für Geowissenschaften und Ruhstoffe (BGR) on behalf of the Government of the Federal Republic of Germany.

II. Evaluation of annual reports and recommendations

A. Deep Ocean Resources Development Co. Ltd.

General

3. DORD submitted its annual report for 2006 in both hard copy and electronic format on 30 March 2007. The report was structured in line with the headings



recommended by the Commission. The work carried out was consistent with the activities outlined in the plan of work.

4. The report includes the schedule of the future programme of work presented with the programme of activities for the second five-year period. While the present report is not the place to analyse the future programme of work, it must be stated that the schedule for the environmental impact assessment and the environmental baseline studies does not seem to be in accordance with the Regulations.

Exploration work

5. DORD did not carry out any field work in 2006. However, the contractor initiated a study of the appropriateness of starting a second stage of exploration. DORD has indicated a total time period of 20 years to start commercial exploitation once detailed exploration is started.

Mining test and mining technology

6. In accordance with the programme of activities under the contract, no activity was reported during 2006.

Training

7. In accordance with the programme of activities under the contract, no training programme was carried out.

Environmental monitoring and assessment

8. In accordance with the programme of activities under the contract, no work was carried out.

Financial statement

9. The annual report contained a breakdown of expenditure in the form of a certificate.

Proposed adjustment to the programme of work

10. The contractor has not proposed any change in the programme of work.

Conclusions and recommendations

11. The report does not provide details of the work carried out under different activities. The Commission requests the Secretary-General to seek clarification on the exploration work.

B. Yuzhmorgeologiya

General

12. Yuzhmorgeologiya submitted its annual report in the Russian language on 4 April 2007, both in electronic format and hard copy, and provided an English translation on 20 May 2007. The report broadly follows the general format suggested by the Commission.

Exploration work

13. The exploration work carried out during the year consisted mainly of geo-acoustic survey, photo and television profiling and seabed sampling. The objective was to study geological factors of nodule localization and to contour prospective and ore-free areas of the seabed within the exploration area. The seabed sampling and spot photography helped in characterizing different areas of nodule abundance, density of nodules and sediment cover.

Mining test and mining technology

14. No mining tests were scheduled under the programme of work.

Training

15. No training programme was scheduled under the programme of work for the reporting year.

Environmental monitoring and assessment

16. Environmental studies focused mostly on biological and meteorological parameters. The biological studies included distribution of benthic organisms, density within seabed relief, type of sediment and nodule population. Taxonomic investigation based on photographic data was also carried out.

Proposed adjustment to the programme of work

17. No adjustment to the programme of work is suggested.

Financial statement

18. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate.

Conclusions and recommendations

19. The report is informative and complete, except in respect of resource evaluation for which more details are needed.

C. Government of the Republic of Korea**General**

20. The Government of the Republic of Korea submitted the annual report on 5 April 2007 in hard-copy format. The report follows the general format suggested by the Commission.

Exploration work

21. The year 2006 was the first year of phase II of the exploration contract. The Korean Ocean Research and Development Institute (KORDI) used its research vessel *RV Onnuri* for both exploration and environmental studies. A total of 83 days were spent at sea on the vessel. The report presents the bathymetric map, sidescan imagery of the area and details of the chemical analyses carried out.

Mining test and mining technology

22. No mining tests were conducted by the contractor during the review period. However, KORDI continued research on collector and integrated mining operation technology. It also continued the work on increasing the efficiency in the leach technology for extraction of metals.

Training

23. The contractor did not conduct any training in 2006 as none was scheduled.

Environmental monitoring and assessment

24. Environmental studies carried out by the contractor included physical characteristics of seawater, bottom currents and biological fauna in the water column and on the sea floor. KORDI deployed a bottom mooring for one year's duration. The report also presents the dominant faunal groups at each sampling station in a graphical format.

Financial statement

25. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate.

Proposed adjustment to the programme of work

26. No adjustments to the programme of work are proposed by the contractor.

Conclusions and recommendations

27. The report is informative with an emphasis on methodology, requiring annotations on illustrations to be clearer, and units to be provided in the format of the International System of Units, including basic data and location information from sites where manganese nodules have been recorded.

D. China Ocean Mineral Resources Research and Development Association

General

28. The China Ocean Mineral Resources Research and Development Association (COMRA) submitted its annual report both in hard copy and electronic format on 27 March 2007. The report follows the general format suggested by the Commission.

Exploration work

29. The contractor did not carry out any field-cruise exploration work in 2006. The report is mainly concerned with resource evaluation of the polymetallic nodules based on the field-work data obtained in 2004 and 2005. The co-kriging method was used for the resource evaluation.

Mining test and mining technology

30. The two new COMRA laboratories for deep-sea mining and lifting system are in the final stage of completion. The contractor continued its studies on manganese and iron recovery.

Training

31. The contractor did not conduct any training for the year 2006 as none was scheduled by the contract.

Environmental monitoring and assessment

32. The environmental studies by the contractor involved analysis of physical, chemical, biological and geological baseline data obtained in previous years. COMRA also conducted studies on leaching residues as clinker for cement manufacture.

Financial statement

33. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate.

Proposed adjustment to the programme of work

34. The contractor has not requested any adjustments to the plan of work.

Conclusions and recommendations

35. The report is succinct. The work was carried out in accordance with phase II of the plan of work. In the absence of any field work, COMRA has concentrated on analysing the existing data and a comprehensive resource evaluation which has helped in identifying target areas for detailed work. However, the details of mining technology work are not provided.

E. Interoceanmetal Joint Organization**General**

36. IOM submitted its annual report for 2006 in hard copy and in electronic format on 26 March 2007. The report follows the general format suggested by the Commission.

Exploration work

37. IOM did not conduct any field cruises during the reporting period. IOM used the detailed multibeam data to produce the sea floor relief map and bottom slope map. The contractor completed detailed resource assessment in an area of 33,944 square kilometres and reported a very high average abundance of 13.15 kg/m². The contractor identified a location with mining potential.

Mining test and mining technology

38. IOM analysed the geological, geotechnical, oceanographic and other data from the archives to provide grounds for development of the principal structure of the

mining system. IOM proposes to commence major metallurgical activities in phase II of the exploration contract.

Training

39. No training was scheduled in accordance with the programme of work.

Environmental monitoring and assessment

40. IOM analysed new information and collated the existing data on marine environment. The parameters being studied are chemical, biological communities, bioturbation and sedimentation.

Financial statement

41. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate. A certified copy of the expenditure statement is to be provided before the commencement of the thirteenth session.

Proposed adjustment to the programme of work

42. No adjustment to the programme of work was proposed.

Conclusions and recommendations

43. The report is comprehensive and includes precise maps and figures.

F. Government of India

General

44. The Government of India submitted its annual report for 2006 in hard copy on 25 April 2007. The report follows the general format suggested by the Commission.

Exploration work

45. During 2006, the contractor carried out three sampling cruises, covering a total of 120 stations. A comprehensive geostatistical analysis of nodule abundance and topographic data has been carried out. The resource-based categorization done by the contractor identified five possible mine sites out of the 411 blocks. Each of the five potential mine sites has 45 million tons of dry nodules and can sustain 30 years of mine life of 1.5 million tons per year. The contractor also carried out detailed multibeam mapping of the first-generation mine site.

Mining test and mining technology

46. Technological trials done by the contractor included underwater crawler, dynamic positioning systems and in situ soil tester. The contractor also continued its work to increase pilot plant capacity and improve cobalt extraction efficiency.

Training

47. The contractor did not conduct any training for the year 2006, in accordance with the programme of activities.

Environmental monitoring and assessment

48. Environmental studies involved processing and analysis of data collected in previous years, particularly sediment sizes, geotechnical properties, geochemistry of sediment and porewaters, meiofaunal and macrofaunal distributions and bacterial and biochemical variability.

Financial statement

49. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate.

Proposed adjustment to the programme of work

50. The contractor has not requested any adjustment to the programme of work.

Conclusions and recommendations

51. The Commission had suggested during the evaluation of annual reports for 2005 that the contractor should clearly indicate the work carried out during the reporting year. India has, to a large extent, complied with this in the 2006 annual report. The Commission recommended that the contractor should provide the location details of the sampling stations.

G. Institut français de recherche pour l'exploitation de la mer**General**

52. IFREMER submitted its annual report in hard copy on 20 June 2007. The report broadly follows the general format suggested by the Commission.

Exploration work

53. IFREMER did not conduct any field cruises during the reporting period. According to the programme of work no exploration work was scheduled during 2006.

Mining test and mining technology

54. No work of this nature was planned in the programme of work.

Training

55. No training programme scheduled in the plan of work.

Environmental monitoring and assessment

56. IFREMER continued working on samples and analysing the results of the Nodinaut cruise conducted in 2004. The work has resulted in several scientific publications and in better understanding of the deep-sea benthic ecosystem. The benthic communities sampled have been studied to investigate variability structure and distribution of organisms on a regional scale.

Financial statement

57. In accordance with the programme of activities under the contract, the annual report contained a breakdown of expenditure in the form of a certificate.

Proposed adjustment to the programme of work

58. No adjustment to the programme of work has been proposed.

Conclusions and recommendations

59. IFREMER presented a list of reports and publications brought out from the scientific studies. The Commission recommends that future reports should contain more detailed information and follow more precisely the recommended headings and content list.

H. Germany

General

60. BGR submitted its annual report for 2006 in electronic format on 16 May 2007. The reporting period covers approximately five months following the signature of the contract on 19 July 2006. The report is not structured in line with the headings and content list recommended by the Commission in 2002 (ISBA/8/LTC/2, annex).

Exploration work

61. BGR is presently sorting and evaluating the data acquired from the German company Preussag AG. Nodules collected during the 1970s and 1980s are being studied for their growth history. BGR also proposes to analyse nodules for their rare earth element content and platinum group elements.

Mining test and mining technology

62. No work on mining test and technology was carried out by the contractor during the reporting period.

Training

63. The contract requires BGR to conduct training as part of its plan of work. Under the original programme of activities, two trainees were to be selected to participate in a research cruise in September 2006. However, due to the delay in signing the contract, there was insufficient time to conduct the selection process in time for that date. BGR now proposes to accommodate the two trainees in 2008 and 2009. A revised training programme will be submitted in due course to the Secretariat.

Environmental monitoring and assessment

64. BGR, in collaboration with three other laboratories, proposes to undertake a cruise in 2009 for environmental data on sea floor relief, microbial and abiotic process investigation and palaeoceanographic studies.

Adjustments to the programme of work

65. In addition to the adjustment concerning training, BGR now proposes that the cruise that was planned for 2008 be rescheduled to 2009.

Financial statement

66. BGR provided a final certified expenditure statement with a revised breakdown of expenditure in June 2007.

Conclusions and recommendations

67. The Commission recommends that in future the annual report be structured in line with the standard format. The Commission also requests more details and itemization of the work being carried out under separate activities.

III. General comments

68. The Commission made some general comments on the annual reports and contractors' work programmes as follows:

(a) The Commission stressed the importance of structuring the annual reports according to the format recommended in 2002 (ISBA/8/LTC/2, annex). The Commission also recalled that annual reports have to be submitted by the end of March each year. Furthermore, it is sometimes difficult to make out from the reports the actual work carried out during the reporting year. Reports should therefore clearly indicate the work done during the reporting period. The reports should also briefly indicate the work proposed to be carried out in the following year;

(b) The Commission recommended that the units used in the annual reports be those of the International System of Units (SI);

(c) Most of the reports highlight the work carried out, methods and results. The Commission has on several occasions requested that actual raw data be provided wherever possible, but most of the contractors still do not provide such data;

(d) The Commission suggested that baseline meteorological data be collected on all expeditions to contract areas;

(e) Contractors should clearly indicate where there are changes in the programme of activities compared to what has been agreed in the contract;

(f) The Commission noted that there were very large disparities in the amounts reported as being spent on exploration by each contractor. Furthermore, in the case of some contractors, the expenditure reported was greatly in excess of the expenditure that had been proposed in the original programme of activities. The Commission recommended that the Secretary-General take steps to clarify with individual contractors whether there was a need to adjust the programme of activities to take account of a higher level of expenditure than originally envisaged. The Commission also emphasized the need for reported expenditure to be properly itemized and to relate only to the actual and direct costs of exploration as it is established in section 10.2 (c) of annex 4 to the Regulations.